

REMARKS

In the OFFICE ACTION dated January 24, 2003, claims 13-20 were rejected under 35 U.S.C. 103(a) as being unpatentable over *Chua et al.* *Chua et al.* is directed to methods for forming amorphous silicon antifuses (*see* col. 5, lines 1-33). The antifuses are formed in vias that extend between two electrodes. As shown in FIG. 5 and described in Col. 7, lines 51-67, the via 39 is formed in a dielectric 34. The via 39 is then coated with a layer of amorphous silicon 55 and a layer of conductive material 56. The silicon layer 55 and conductive layer 56 only extend "somewhat beyond the edge of the via 39" (*see* col. 5, lines 19-21). The amount of conductive layer 56 in the via must be sufficient to form a conductive path 57 through the silicon layer 55 as shown in FIG. 6 (*see* col. 7, lines 59-62).

Applicants' invention is in no way directed to antifuses that are formed in vias that pass through a dielectric layer at spaced locations. Instead, Applicants' invention involves the use of a "protective" layer of conductive material that is placed over a molecular layer during fabrication of an electronic circuit. Both the molecular layer and the protective layer cover a first electrode pattern that typically includes numerous electrode locations or intersections. This is completely different from *Chua et al.* that teaches the uses of a conductive layer and a silicon layer at discrete vias. These two layers taught by *Chua et al.* do not extend between and cover a number of vias.

Applicant amends the claims to more particularly point out that the claimed molecular layer and conductive protective layer cover more than one electrode location. This is in contrast to *Chua et al.* that requires that the silicon and conductive layers be deposited only in a single via. It is important to note that the assemblies set forth in claims 12-20 are intermediate structures and are for use in making a final electronic circuit (*see* Paragraph 31). These intermediate structures are not operational because the conductive protective layer covers more than one electrode location and effectively shorts out the assembly. The assembly only becomes operational when the protective conductive layer is etched away after the second electrode pattern has been placed on top of the protective layer. Only original claims 21-23 and newly presented claims 25-30 cover a device that is operational.

The conductive layer 56 described by *Chua et al.* is specifically provided as an anti-fuse material that forms a conductive path 57 through the silicon layer 55 at the appropriate time (FIGS. 5 and 6). This is completely different from applicants' protective layer that is designed to protect the underlying molecular layer during fabrication. In addition, the conductive material in applicants' protective layer does not form a conductive path through the molecular layer as taught by *Chua et al.* (FIG. 6 at 57). The conductive layer 56 used in the via 39 of *Chua et al.* is used for a different purpose than Applicants' protective layer and provides a completely different result.

The conductive layer 56 of *Chua et al.* is specifically limited to a single via location. *Chua et al.* teaches that the conductive layer 56 cannot cover more than one via because to do so would short out the anti-fuses located in each via. This is exactly opposite of Applicants' protective layer, as now claimed, which extends between and covers at least two electrode locations. The amended claims require that the protective layer effectively shorts out and renders the intermediary assemblies inoperative. The assemblies only become operative as final electronic circuits when the conductive protective layer is removed at all locations except those underlying the second electrode pattern. Again, applicants' protective layer is used for a different purpose than *Chua et al.* and produces a different result.

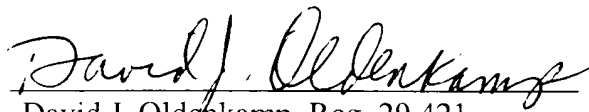
Applicants' previously elected claims 13-23 (Group 2) for prosecution pursuant to a Restriction Requirement. Accordingly, applicants have cancelled claims 1-12 and 24 to remove them from further consideration. Applicants also made a species election of claims 13-20. Applicants have not cancelled claims 21-23 because these claims are closely related to claims 13-20 in that these claims (21-23) are directed to the operational devices that are made from the intermediate assemblies by removal of the protective layer that lies under the second electrode pattern. In addition, applicants submit new claims 25-30 for examination. These claims are all dependent on claim 21 and correspond to the claims that are dependent on claim 13.

In view of the above amendments and remarks, applicants respectfully request that this application be reexamined and that the claims, as amended, be allowed.

Please charge any fees or credit any overpayments to Deposit Account No. 50-1811.

Respectfully submitted,

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